AIR QUALITY PERMIT

Issued To: Goose Bay Equipment, Inc.
1995 3rd Avenue East
Kalispell, MT 59901

Permit #3394-01
Administrative Amendment (AA)
Request Recd: 02/21/06
Department Decision on AA Issued: 04/05/06
Permit Final:
AFS #777-3394

An air quality permit, with conditions, is hereby granted to Goose Bay Equipment, Inc. (Goose Bay), pursuant to Sections 75-2-204 and 211, Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

Goose Bay operates a portable crushing/screening facility. However, Permit #3394-01 would apply while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program or those areas considered tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* Addendum #2 applies to the Goose Bay facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) non-attainment areas during the summer months (April 1 – September 30) and at sites approved by the Department during the winter months (October 1 – March 31), including the initial site location, Section 36, Township 30 North, Range 21 West, in Flathead County, Montana. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On February 21, 2006, the Department received a request from Goose Bay to amend Permit #3394-00. The request is to delete three pieces of equipment: a 1952 cone crusher; a 1974 jaw crusher; and a 1962 two-deck screen. The request is also to add a 1983 cone crusher with a maximum design process rate of 270 tons per hour. Lastly, the request stated that the wash plant is equipped with a three-deck screen instead of a two-deck screen. Permit #3394-01 was written to include Addendum #2 that will allow Goose Bay to operate at any location in or within 10 km of certain PM_{10} non-attainment areas during the summer months (April 1 – September 30) and at sites approved by the Department during the winter months (October 1 – March 31), including the initial site location, the Section 36, Township 30 North, Range 21 West, in Flathead County, Montana. Also, the permit was updated to reflect the current permit language and rule references used by the Department.

Section II: Limitations and Conditions

A. Operational Limitations and Conditions

1. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any Standards of Performance for New Stationary Sources (NSPS) affected crusher, any visible emissions that exhibit an opacity of 15% or greater averaged over six consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR Part 60, Subpart OOO).

2. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any other NSPS affected equipment, such as screens or conveyor transfers, any visible emissions that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO).

3. Goose Bay shall not cause or authorize to be discharged into the atmosphere, from any non-NSPS affected equipment, any visible emissions that exhibit an opacity of 20% or greater averaged over six consecutive minutes (ARM 17.8.308 and ARM 17.8.752).

4. Water and water spray bars shall be available on site at all times and operated, as necessary, to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.752).

5. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any street, road, or parking lot any visible fugitive emissions that exhibit an opacity of 20% or greater averaged over six consecutive minutes and must take reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308 and ARM 17.8.752).

6. Goose Bay shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749).

7. Crusher production from the facility shall be limited to 1,741,500 tons during any rolling 12-month time period (ARM 17.8.749).

8. Goose Bay shall not operate more than one crusher at any given time and the maximum rated design capacity of the crusher shall not exceed 270 tons per hour (TPH) (ARM 17.8.749).

9. Total combined screen production from the facility shall be limited to 3,431,400 tons during any rolling 12-month time period (ARM 17.8.749).

10. Goose Bay shall not operate more than three screens at any given time and the maximum combined rated design capacity of the three screens shall not exceed 532 TPH (ARM 17.8.749).

11. Total wash plant screening production from the facility shall be limited to 1,444,800 tons during any rolling 12-month time period (ARM 17.8.749).

12. Goose Bay shall not operate more than one wash plant screening unit at any given time and the maximum rated design capacity of the screen shall not exceed 224 TPH (ARM 17.8.749).

13. Goose Bay shall not exceed 6,450 hours of operation during any rolling 12-month time period (ARM 17.8.749).

14. If the permitted equipment is used in conjunction with any other equipment

owned or operated by Goose Bay, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons of emissions during any rolling 12-month time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

15. Goose Bay shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

B. Testing Requirements

1. Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures, as specified in 40 CFR Part 60.675, must be performed on any NSPS affected equipment to demonstrate compliance with the emissions limitations contained in Sections II.A.1 and II.A.2 (ARM 17.8.340, 40 CFR Part 60, Subpart A and Subpart OOO).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this portable crushing/screening plant is moved to another location, an Intent to Transfer Form must be sent to the Department. In addition, a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The Intent to Transfer Form and the proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.765).

2. Goose Bay shall maintain on-site records showing daily hours of operation and daily production rates for the last 12-months. All records compiled in accordance with this permit shall be maintained by Goose Bay as a permanent business record for at least five years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

3. Goose Bay shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the most recent emission inventory report and sources identified in Section I.A of the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in units as required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

4. Goose Bay shall notify the Department of any construction or improvement

project conducted, pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start-up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

5. Goose Bay shall document, by month, the total crushing production for the facility. By the 25th day of each month, Goose Bay shall calculate the total crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.7. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Goose Bay shall document, by month, the total screening production for the facility. By the 25th day of each month, Goose Bay shall calculate the total screening production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. Goose Bay shall document, by month, the total wash plant screening production for the facility. By the 25th day of each month, Goose Bay shall calculate the total wash plant screening production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.11. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

8. Goose Bay shall document, by month, the hours of operation of the facility. By the 25th day of each month, Goose Bay shall total the hours of operation of the facility during the previous 12 months to verify compliance with the limitation in Section II.A.12. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

Section III: General Conditions

A. Inspection - Goose Bay shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Goose Bay fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Goose Bay of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement - Violations of limitations, conditions and requirements contained herein

may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401 *et seq*., MCA.

E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay of the annual operation fee by Goose Bay may be grounds for revocation of this permit, as required by that Section and rules adopted thereunder by the Board.

H. Construction Commencement - Construction must begin within three years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked.

I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.

J. Goose Bay shall comply with the conditions contained in this permit while operating at any location in Montana, except within those areas having a Department-approved permitting program.

PERMIT ANALYSIS
Goose Bay Equipment, Inc.
Permit Number 3394-01

I. Introduction/Process Description

A. Permitted Equipment

Goose Bay Equipment, Inc. (Goose Bay) owns and operates a portable crushing/screening facility consisting of one portable crusher (up to 270 tons per hour (TPH)), three screens (up to 532 TPH), one wash plant (up to 224 TPH), and associated equipment.

B. Process Description

Goose Bay proposes to use this crushing/screening plant and associated equipment to crush sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a hopper, transferred by conveyor, and passed through the crushers. Materials are crushed by the crusher and sent to the three screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

C. Permit History

On March 29, 2005 the Department of Environmental Quality (Department) received a complete application from Goose Bay to operate a portable crushing/screening operation that was proposed to originally locate in Section 36, Township 30 North, Range 21 West, in Flathead County, Montana. However, **Permit #3394-00** applied while operating at any location in Montana, except within those areas having a Department-approved permitting program. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* Addendum 1 to this permit applied while operating at those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) non-attainment areas during the summer months.

D. Current Permit Action

On February 21, 2006, the Department received a request from Goose Bay to amend Permit #3394-00. The request is to delete three pieces of equipment: a 1952 cone crusher; a 1974 jaw crusher; and a 1962 two-deck screen. The request is also to add a 1983 cone crusher with a maximum design process rate of 270 tons per hour. Lastly, the request stated that the wash plant is equipped with a three-deck screen instead of a two-deck screen. Permit #3394-01 was written to include Addendum #2 that will allow Goose Bay to operate at any location in or within 10 km of certain PM_{10} non-attainment areas during the summer months (April 1 – September 30) and at sites approved by the Department during the winter months (October 1 – March 31), including the initial site location, the Section 36, Township 30 North, Range 21 West, in Flathead County, Montana. Also, the permit was updated to reflect the current permit language and rule references used by the Department. **Permit #3394-01** replaces Permit #3394-00.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated

with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule is a list of applicable definitions used in this subchapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Goose Bay shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than four hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Goose Bay must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over six consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Goose Bay shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause or allow to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standards of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, NSPS, shall comply with the standards and provisions of 40 CFR Part 60. Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, indicates that NSPS requirements apply to crushing/screening facilities with capacities greater than 150 tons per hour and/or that were constructed after August 31, 1983. The Goose Bay facility has a capacity in excess of 150 tons per hour and was constructed after August 31, 1983; therefore, NSPS requirements apply to the facility.

D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that Goose Bay submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any asphalt plant, crusher, or screen that has the Potential to Emit (PTE) greater than 15 tons per year of any pollutant. Goose Bay has a PTE greater than 15 tons per year of total particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), and oxides of nitrogen (NO_x)**;** therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit Program.

4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Goose Bay submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal

Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section IV of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Goose Bay of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of Goose Bay, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of Intent to Transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the

transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source since it is not a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE > 100 tons/year of any pollutant.

   b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule, or

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3394-01 for the Goose Bay facility, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 ton/year of all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NESHAP standards.

   e. The facility is currently subject to NSPS standards (40 CFR 60, Subpart A, General Provisions, and Subpart OOO, Non-Metallic Mineral Processing Plants).

   f. This source is not a Title IV affected source nor a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that this facility would be a minor source of emissions, as defined under the Title V Operating Permit Program. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Goose Bay will be required to obtain a Title V Operating Permit.

III. BACT Analysis

A BACT determination is required for any new or altered source. Goose Bay shall install on the new or altered source the maximum air pollution control capability that is technologically practicable and economically feasible, except that BACT shall be used.

Two types of emissions controls are readily available and used for dust suppression of fugitive emissions at the site, fugitive emissions for the surrounding area of operations, and for equipment emissions from the crushing/screening operation. These two control methods are water and chemical dust suppressant. Chemical dust suppressant could be used for dust suppression on the area surrounding the crushing/screening operation and for emissions from the crushing/screening operation. However, because water is more readily available, is more cost effective, is equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method of pollution control of particulate emissions for the general plant area. In addition, water suppression has been required of recently permitted similar sources. However, Goose Bay may use chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area where it would assist in reducing emissions of particulate matter.

Goose Bay shall not cause or authorize to be discharged into the atmosphere from any non-NSPS affected equipment, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any NSPS affected crusher, any visible emissions that exhibit an opacity of 15% or greater averaged over 6 consecutive minutes. Also, Goose Bay shall not cause or authorize to be discharged into the atmosphere from any affected screen, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. Goose Bay must also take reasonable precautions to limit the fugitive emissions of airborne particulate matter from haul roads, access roads, parking areas, and the general area of operation. Goose Bay is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity and reasonable precaution limitations. Goose Bay may also use chemical dust suppression, in order to maintain compliance with emissions limitations in Section I.A of permit #3394-01. The Department determined that using water spray bars, water, and chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT for the crushing/screening operation.

IV. Emission Inventory

Source	Tons/Year PM	PM_{10}	NO_x	VOC	CO	SO_x
Crusher (up to 270 TPH)	2.18	1.04				
Screens (up to 532 TPH)	27.02	12.87				
Wash Plant (up to 224 TPH)	6.83	3.25				
Material Transfer	10.10	7.92				
Pile Forming	29.26	13.93				
Bulk Loading	18.29	8.71				
Haul Roads	2.74	1.23				
Total	96.41	48.96				

Note: A complete emissions inventory is included at the end of the permit. A limitation of 6,450 hours of operation per year were placed upon the facility to keep emissions below the thresholds established in the Department's Modeling guidance of 50 TPY of PM_{10} emissions.

V. Existing Air Quality

Permit #3394-01 is issued for the operation of a portable crushing/screening facility to operate at various locations throughout Montana. This facility would be allowed to operate at any area designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); excluding those counties that have a Department-approved permitting program, those areas considered tribal lands, or those areas in or within 10 km of certain PM_{10} non-attainment areas. *A Missoula County air quality permit would be required for locations within Missoula County, Montana.* Addendum #2 of Permit #3394-01 would cover this portable crushing/screening plant while operating at locations in or within 10 km of a PM_{10} nonattainment area during the winter season (October 1 through March 31). Addendum #2 of Permit #3394-01 would also allow for summertime operations (April 1 – September 30) at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM_{10} non-attainment areas.

VI. Air Quality Impacts

Based on the information provided and the conditions established in Permit #3394-01, the amount of controlled emissions generated by this facility will not exceed any set ambient air quality standards. Further, the limitations and conditions established in Addendum #2 would further reduce emissions in the non-attainment areas and would be protective of the ambient air quality standards. Also, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and short-lived. The conditions in Permit #3394-01 will be protective of air quality while Goose Bay is operating at locations not located in or within 10 km of certain PM_{10} non-attainment areas.

Addendum #2
Goose Bay Equipment, Inc.
Permit #3394-01

An addendum to air quality Permit #3394-01 is issued to Goose Bay Equipment, Inc. (Goose Bay), pursuant to Sections 75-2-204 and 75-2-211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment

Goose Bay owns and operates a portable crushing/screening facility consisting of one portable crusher (up to 270 tons per hour (TPH)), three screens (up to 532 TPH), one wash plant (up to 224 TPH), and associated equipment.

II. Seasonal and Site Restrictions

Addendum #2 applies to the Goose Bay facility while operating at any location in or within 10 km of certain PM_{10} non-attainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

A. During the winter season (October 1-March 31) – The only location(s) in or within 10 km of certain PM_{10} non-attainment area where Goose Bay may operate is:

- Section 36, Township 30 North, Range 21 West; and
- Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).

B. During the summer season (April 1-September 30) – Goose Bay may operate at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM_{10} non-attainment areas.

C. Goose Bay shall comply with the limitations and conditions contained in Addendum #2 to Permit #3394-01. Addendum #2 shall be valid until revoked or modified. The Department of Environmental Quality (Department) reserves the authority to modify Addendum #2 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

A. Operational Limitations and Conditions – **Winter Season (October 1 – March 31)**

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is operating (ARM 17.8.749).

2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

3. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as transfer points, any visible emissions that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

4. Goose Bay shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

5. Goose Bay shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

6. Total crushing production from the crusher shall not exceed 1,433 tons during any rolling 24-hour time period (ARM 17.8.749).

7. Total combined screening production from the three screens shall be limited to 2,824 tons during any rolling 24-hour time period (ARM 17.8.749).

8. Total screening production from the wash plant shall be limited to 1,189 tons during any rolling 24-hour time period (ARM 17.8.749).

9. Goose Bay shall not exceed 17.7 hours of operation during any rolling 24-hour time period (ARM 17.8.749).

B. Operational Limitations and Conditions – **Summer Season (April 1 – September 30)**

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is operating (ARM 17.8.749).

2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

3. Goose Bay shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as transfer points, any visible emissions that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

4. Goose Bay shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater averaged over six consecutive minutes (ARM 17.8.749).

5. Goose Bay shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

6. Total crushing production from the crusher shall not exceed 4,779 tons during any rolling 24-hour time period (ARM 17.8.749).

7. Total combined screening production from the three screens shall be limited to 9,416 tons during any rolling 24-hour time period (ARM 17.8.749).

8. Total screening production from the wash plant shall be limited to 3,964 tons during any rolling 24-hour time period (ARM 17.8.749).

9. Goose Bay shall not exceed 17.7 hours of operation during any rolling 24-hour time period (ARM 17.8.749).

C. Operational Reporting Requirements

1. Goose Bay shall provide the Department with written notification of job completion within 10 working days of job completion (ARM 17.8.749).

2. Goose Bay shall provide the Department with written notice of relocation of the permitted equipment within 15 working days before the physical transfer of the equipment (ARM 17.8.765).

3. Production information for the sites covered by this addendum must be submitted to the Department with the annual emission inventory request or within 30 days of completion of the project. The information must include (ARM 17.8.749):

   a. Tons of material crushed at each site;

   b. Tons of material screened by each screen at each site;

   c. Tons of bulk material loaded at each site;

   d. Daily hours of operation at each site;

   e. Fugitive dust information consisting of a listing of all plant vehicles including the following for each vehicle type:

      i. Number of vehicles;
      ii. Vehicle type;
      iii. Vehicle weight, loaded;
      iv. Vehicle weight, unloaded;
      v. Number of tires on vehicle;
      vi. Average trip length;
      vii. Number of trips per day per vehicle;
      viii. Average vehicle speed;
      ix. Area of activity; and
      x. Vehicle fuel usage (gasoline or diesel) annual total.

   f. Fugitive dust control for haul roads and general plant area:

      i. Hours of operation of water trucks; and
      ii. Application schedule for chemical dust suppressant, if applicable.

4. Goose Bay shall document, by day, the total crushing production during the winter season. Goose Bay shall sum the total crushing production during the previous 24 hours to verify compliance with the limitations in Section III.A.6. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

5. Goose Bay shall document, by day, the total crushing production during the summer season. Goose Bay shall sum the combined total crushing production during the previous 24 hours to verify compliance with the limitations in Section III.B.6. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Goose Bay shall document, by day, the total screening production during the winter season. Goose Bay shall sum the total screening production during the previous 24 hours to verify compliance with the limitations in Section III.A.7. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. Goose Bay shall document, by day, the total screening production during the summer season. Goose Bay shall sum the combined total screening production during the previous 24 hours to verify compliance with the limitations in Section III.B.7. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

8. Goose Bay shall document, by day, the total wash plant screening production during the winter season. Goose Bay shall sum the total wash plant screening production during the previous 24 hours to verify compliance with the limitations in Section III.A.8. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

9. Goose Bay shall document, by day, the total wash plant screening production during the summer season. Goose Bay shall sum the total wash plant screening production during the previous 24 hours to verify compliance with the limitations in Section III.B.8. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

10. Goose Bay shall document, by day, the hours of operation of the crushing/screening facility during the winter season. Goose Bay shall total the hours of operation of the crushing/screening facility during the previous 24 hours to verify compliance with the limitations in Section III.A.9. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

11. Goose Bay shall document, by day, the hours of operation of the crushing/screening facility during the summer season. Goose Bay shall total the hours of operation of the crushing/screening facility during the previous 24 hours to verify compliance with the limitations in Section III.B.9. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

Addendum #2 Analysis
Goose Bay Equipment, Inc.
Permit #3394-01

I. Permitted Equipment

Goose Bay Equipment, Inc. (Goose Bay) owns and operates a portable crushing/screening facility consisting of one portable crusher (up to 270 tons per hour (TPH)), three screens (up to 532 TPH), one wash plant (up to 224 TPH), and associated equipment.

II. Source Description

Goose Bay proposes to use this crushing/screening plant and associated equipment to crush sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a hopper and transferred by conveyor and passed through the crusher. Materials are crushed, by the crusher and sent to the screens. Materials are screened, separated, and sent to stockpile for sale and use in construction operations.

III. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be issued. Also, a permit may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. Goose Bay demonstrated compliance with all applicable rules and standards as required for permit issuance.

B. ARM 17.8.764 Modification of Permit. An air quality permit may be modified for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack which do not result in an increase in emissions because of the changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:

1. Written notice of Intent to Transfer location and proof of public notice are sent to the Department;

2. The source will operate in the new location for a period of less than 1 year; and

3. The source will not have any significant impact on any nonattainment area or any Class I area.

Goose Bay must submit proof of compliance with the transfer and public notice

requirements when Goose Bay transfers to any of the locations covered by this addendum and will only be allowed to stay in the new location for a period of less than 1 year. Also, the conditions and limitations in Addendum #2 to Permit #3394-01 will prevent Goose Bay from having a significant impact on PM_{10} non-attainment areas.

IV. Emission Inventory

	Lb/Day					
Source	**PM**	**PM_{10}**	**NO_x**	**VOC**	**CO**	**SO_x**
Crusher (up to 270 TPH)	3.59	1.72				
Screens (up to 532 TPH)	44.49	21.19				
Wash Plant (up to 224 TPH)	11.24	5.35				
Material Transfer	16.63	13.05				
Pile Forming	48.17	22.94				
Bulk Loading	30.11	14.34				
Haul Roads	4.5	2.03				
Total	158.73	80.62				

Note: Emission inventory for winter season.

	Lb/Day					
Source	**PM**	**PM_{10}**	**NO_x**	**VOC**	**CO**	**SO_x**
Crusher (up to 270 TPH)	11.95	5.73				
Screens (up to 532 TPH)	148.31	70.63				
Wash Plant (up to 224 TPH)	37.47	17.84				
Material Transfer	55.44	43.49				
Pile Forming	160.57	76.46				
Bulk Loading	100.36	47.79				
Haul Roads	15.00	6.75				
Total	529.06	268.69				

Note: Emission inventory for summer season.

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for PM_{10}. Due to exceedances of the national standards for PM_{10}, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM_{10}. As a result of this designation, EPA required the Department and the City-County Health Departments submit PM_{10} State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies determined these sources to be the major contributors to PM_{10} emissions.

Addendum #2 to Permit #3394-01 is for a portable crushing/screening plant to locate at sites in or within 10 km of certain PM_{10} non-attainment areas during the winter season (October 1 through March 31). Winter season (October 1 through March 31) operations many include only the locations listed in Section II.A of Addendum #2. Addendum #2 of Permit #3394-01 would also allow for summertime operations (April 1 – September 30) at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM_{10} non-attainment areas.

VI. Air Quality Impacts

Goose Bay applied for an air quality permit to operate a portable crushing/screening plant to be located at various locations throughout Montana. Permit #3394-01 and Addendum #2 will cover the Goose Bay crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department-approved permitting program and those areas considered tribal lands. Based on the information provided, the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard. In addition, this source is portable and any air quality impacts will be minimal.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, Montana Code Annotated (MCA), the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

This permitting action is considered an administrative action; therefore, an environmental assessment is not required.

Analysis Prepared By: Eric Thunstrom
Date: February 22, 2006

Source	PM	PM-10
1983 Kue-Ken 51-inch CTC Cone Crusher (up to 270 TPH)	11.95	5.73
1974 Kolman 5 ft x 10 ft 2-deck feed screen (up to 140 TPH)	39.03	18.59
1974 EL-Jay 5 ft x 12 ft 3-deck screen (up to 168 TPH)	46.83	22.30
1983 EL-Jay 5 ft x 16 ft 2-deck screen (up to 224 TPH)	62.45	29.74
1996 Pioneer 5 ft x 16 ft 3-deck screen wash plant (up to 224 TPH)	37.47	17.84
Material Transfer (13 Material Transfer, 270 TPH)	55.44	43.49
Pile Forming (8 Pile Forming, 270 TPH)	160.57	76.46
Bulk Loading (5 Bulk Loading, 270 TPH)	100.36	47.79
Haul Roads	15.00	6.75
	529.09	268.69

Tons/Year

Source	PM	PM-10
1983 Kue-Ken 51-inch CTC Cone Crusher (up to 270 TPH)	2.18	1.04
1974 Kolman 5 ft x 10 ft 2-deck feed screen (up to 140 TPH)	7.11	3.39
1974 EL-Jay 5 ft x 12 ft 3-deck screen (up to 168 TPH)	8.53	4.06
1983 EL-Jay 5 ft x 16 ft 2-deck screen (up to 224 TPH)	11.38	5.42
1996 Pioneer 5 ft x 16 ft 3-deck screen wash plant (up to 224 TPH)	6.83	3.25
Material Transfer (13 Material Transfer, 270 TPH)	10.10	7.92
Pile Forming (8 Pile Forming, 270 TPH)	29.26	13.93
Bulk Loading (5 Bulk Loading, 270 TPH)	18.29	8.71
Haul Roads	2.74	1.23
Total	96.41	48.96

1983 Kue-Ken 51-inch CTC Cone Crusher (up to 270 TPH)

Maximum Process Rate:: 270 ton/hr
Adjusted Process Rate: 270 ton/hr
Hours of operation: 17.7 hr/day or 6450 hr/yr

PM Emissions:

Emission Factor: 0.005 lb/ton (AP-42, Table 11.19.2-2, 1/95)
Control Efficiency: 50% wet material
Hourly Calculations: 0.005 lb/ton * 270 ton/hr * (1-0.5) = 0.68 lb/hr
Daily Calculations: 0.675 lb/hr * 17.7 hr/day = 11.95 lb/day
Annual Calculations: 0.675 lb/hr * 6450 hr/yr * 0.0005 ton/lb = 2.18 ton/yr

PM-10 Emissions:

Emission Factor: 0.0024 lb/ton (AP-42, Table 11.19.2-2, 1/95)
Control Efficiency: 50% wet material
Hourly Calculations: 0.0024 lb/ton * 270 ton/hr * (1-0.5) = 0.32 lb/hr
Daily Calculations: 0.324 lb/hr * 17.7 hr/day= 5.73 lb/day
Annual Calculations: 0.324 lb/hr * 6450 hr/yr * 0.0005 ton/lb = 1.04 ton/yr

1974 Kolman 5 ft x 10 ft 2-deck feed screen (up to 140 TPH)

Maximum Process Rate:	140	ton/hr		
Adjusted Process Rate:	140	ton/hr		
Hours of operation:	17.7	hr/day	or	6450 hr/yr

PM Emissions:

Emission Factor:	0.0315 lb/ton	(AP-42, Table 11.19.2-2, 1/95)	
Control Efficiency:	50% wet material		
Hourly Calculations:	0.0315 lb/ton * 140 ton/hr * (1-0.5) =		2.21 lb/hr
Daily Calculations:	2.205 lb/hr * 17.7 hr/day =		39.03 lb/day
Annual Calculations:	2.205 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		7.11 ton/yr

PM-10 Emissions:

Emission Factor:	0.015 lb/ton	(AP-42, Table 11.19.2-2, 1/95)	
Control Efficiency:	50% wet material		
Hourly Calculations:	0.015 lb/ton * 140 ton/hr * (1-0.5) =		1.05 lb/hr
Daily Calculations:	1.05 lb/hr * 17.7 hr/day=		18.59 lb/day
Annual Calculations:	1.05 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		3.39 ton/yr

1974 EL-Jay 5 ft x 12 ft 3-deck screen (up to 168 TPH)

Maximum Process Rate:	168	ton/hr		
Adjusted Process Rate:	168	ton/hr		
Hours of operation:	17.7	hr/day	or	6450 hr/yr

PM Emissions:

Emission Factor:	0.0315 lb/ton	(AP-42, Table 11.19.2-2, 1/95)	
Control Efficiency:	50% wet material		
Hourly Calculations:	0.0315 lb/ton * 168 ton/hr * (1-0.5) =		2.65 lb/hr
Daily Calculations:	2.646 lb/hr * 17.7 hr/day =		46.83 lb/day
Annual Calculations:	2.646 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		8.53 ton/yr

PM-10 Emissions:

Emission Factor:	0.015 lb/ton	(AP-42, Table 11.19.2-2, 1/95)	
Control Efficiency:	50% wet material		
Hourly Calculations:	0.015 lb/ton * 168 ton/hr * (1-0.5) =		1.26 lb/hr
Daily Calculations:	1.26 lb/hr * 17.7 hr/day=		22.30 lb/day
Annual Calculations:	1.26 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		4.06 ton/yr

1983 EL-Jay 5 ft x 16 ft 2-deck screen (up to 224 TPH)

Maximum Process Rate:	224	ton/hr		
Adjusted Process Rate:	224	ton/hr		
Hours of operation:	17.7	hr/day	or	6450 hr/yr

PM Emissions:

Emission Factor:	0.0315	lb/ton	(AP-42, Table 11.19.2-2, 1/95)
Control Efficiency:	50% wet material		
Hourly Calculations:	0.0315 lb/ton * 224 ton/hr * (1-0.5) =		3.53 lb/hr
Daily Calculations:	3.528 lb/hr * 17.7 hr/day =		62.45 lb/day
Annual Calculations:	3.528 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		11.38 ton/yr

PM-10 Emissions:

Emission Factor:	0.015	lb/ton	(AP-42, Table 11.19.2-2, 1/95)
Control Efficiency:	50% wet material		
Hourly Calculations:	0.015 lb/ton * 224 ton/hr * (1-0.5) =		1.68 lb/hr
Daily Calculations:	1.68 lb/hr * 17.7 hr/day=		29.74 lb/day
Annual Calculations:	1.68 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		5.42 ton/yr

1996 Pioneer 5 ft x 16 ft 3-deck screen wash plant (up to 224 TPH)

Maximum Process Rate:	224	ton/hr		
Adjusted Process Rate:	224	ton/hr		
Hours of operation:	17.7	hr/day	or	6450 hr/yr

PM Emissions:

Emission Factor:	0.0315	lb/ton	(AP-42, Table 11.19.2-2, 1/95)
Control Efficiency:	70% wet material		
Hourly Calculations:	0.0315 lb/ton * 224 ton/hr * (1-0.7) =		2.12 lb/hr
Daily Calculations:	2.1168 lb/hr * 17.7 hr/day =		37.47 lb/day
Annual Calculations:	2.1168 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		6.83 ton/yr

PM-10 Emissions:

Emission Factor:	0.015	lb/ton	(AP-42, Table 11.19.2-2, 1/95)
Control Efficiency:	70% wet material		
Hourly Calculations:	0.015 lb/ton * 224 ton/hr * (1-0.7) =		1.01 lb/hr
Daily Calculations:	1.008 lb/hr * 17.7 hr/day=		17.84 lb/day
Annual Calculations:	1.008 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		3.25 ton/yr

Material Transfer (13 Material Transfer, 270 TPH)

Maximum Process Rate:	270	ton/hr		
Adjusted Process Rate:	270	ton/hr		
Number of Material Transfer	13	number of Transfers		
Hours of operation:	6450	hr/yr	or	17.7 hr/day

PM Emissions:

Emission Factor:	0.0029	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50% wet material		
Hourly Calculations:	0.0029 lb/ton * 270 ton/hr * 13 number of Transfers* (1-0.5) =		3.13 lb/hr
Daily Calculations:	3.132 lb/hr * 17.7 hr/day=		55.44 lb/day
Annual Calculations:	3.132 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		10.10 ton/yr

PM-10 Emissions:

Emission Factor:	0.0014	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50% wet material		
Hourly Calculations:	0.0014 lb/ton * 270 ton/hr * 13 number of Transfers * (1-0.5)=		2.46 lb/hr
Daily Calculations:	2.457 lb/hr * 17.7 hr/day=		43.49 lb/day
Annual Calculations:	2.457 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		7.92 ton/yr

Pile Forming (8 Pile Forming, 270 TPH)

Maximum Process Rate:	270	ton/hr		
Adjusted Process Rate:	270	ton/hr		
Number of Piles	8	Piles		
Hours of operation:	6450	hr/yr	or	17.7 hr/day

PM Emissions:

Emission Factor:	0.0084	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50%	wet material	
Hourly Calculations:	0.0084 lb/ton * 270 ton/hr * 8 Piles* (1-0.5) =		9.07 lb/hr
Daily Calculations:	9.072 lb/hr * 17.7 hr/day=		160.57 lb/day
Annual Calculations:	9.072 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		29.26 ton/yr

PM-10 Emissions:

Emission Factor:	0.004	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50%	wet material	
Hourly Calculations:	0.004 lb/ton * 270 ton/hr * 8 Piles * (1-0.5)=		4.32 lb/hr
Daily Calculations:	4.32 lb/hr * 17.7 hr/day=		76.46 lb/day
Annual Calculations:	4.32 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		13.93 ton/yr

Bulk Loading (5 Bulk Loading, 270 TPH)

Maximum Process Rate:	270	ton/hr		
Adjusted Process Rate:	270	ton/hr		
Number of Loads	5	Load		
Hours of operation:	6450	hr/yr	or	17.7 hr/day

PM Emissions:

Emission Factor:	0.0084	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50%	wet material	
Hourly Calculations:	0.0084 lb/ton * 270 ton/hr * 5 Load * (1-0.5)=		5.67 lb/hr
Daily Calculations:	5.67 lb/hr * 17.7 hr/day=		100.36 lb/day
Annual Calculations:	5.67 lb/hr * 6450 hr/yr * 0.0005 ton/lb =		18.29 ton/yr

PM-10 Emissions:

Emission Factor:	0.004	lb/ton	(AP-42, Table 8.23-4, moisture content >4% by weight, pg. 8.23-4, 8/82)
Control Efficiency:	50%	wet material	
Hourly Calculations:	0.004 lb/ton * 270 ton/hr * 5 Load* (1-0.5)=		2.70 lb/hr
Daily Calculations:	2.7 lb/hr * 17.7 hr/day=		47.79 lb/dday
Annual Calculations:	2.7 lb/hr * 6450 hr/yr * 0.0005 tons/lb =		8.71 ton/yr

Haul Roads

Vehicle miles travelled:	5	VMT/day	{Estimated}

Control Efficiency is 50% for watering.

PM Emissions:

PM Emission Factor (Rated Load Capacity <50 tons): 6.00 Lbs/VMT

E(PM)= (5 VMT/day)(6.00 Lbs/VMT)(0.5)

E(PM)=	15.00	Lbs/day
or	2.74	tons/yr

PM10 Emission Factor is determined by AQD policy dated 4/25/94:

PM10 Emissions:

PM10 Emission Factor (Rated Load Capacity <50 tons): 2.70 Lbs/VMT

E(PM10)= (5 VMT/day)(2.70 Lbs/VMT)(0.5)

E(PM10)=	6.75	Lbs/day
or	1.23	tons/yr